

United States Court of Appeals
for the Federal Circuit

MONDIS TECHNOLOGY LTD., HITACHI MAXELL,
LTD., NKA MAXELL HOLDINGS, LTD., MAXELL,
LTD.,
Plaintiffs-Appellants

v.

LG ELECTRONICS INC., LG ELECTRONICS USA,
INC.,
Defendants-Cross-Appellants

2023-2117, 2023-2116

Appeals from the United States District Court for the
District of New Jersey in No. 2:15-cv-04431-SRC-CLW,
Judge Stanley R. Chesler.

Decided: August 8, 2025

MARTIN JAY BLACK, Dechert LLP, Philadelphia, PA, argued
for plaintiffs-appellants. Also represented by
JEFFREY EDWARDS, BRIAN GOLDBERG; JEFFREY B. PLIES,
Austin, TX.

MICHAEL JOHN BALLANCO, Fish & Richardson P.C.,
Washington, DC, argued for defendants-cross-appellants.
Also represented by CHRISTIAN A. CHU, MICHAEL J.
MCKEON, ROBERT ANDREW SCHWENTKER.

Before TARANTO, CLEVENGER, and HUGHES, *Circuit Judges.*

HUGHES, *Circuit Judge.*

This is an appeal from a judgment issued by the United States District Court for the District of New Jersey pursuant to a jury verdict and a subsequent denial of motion for judgment as a matter of law. The jury determined that U.S. Patent No. 7,475,180 was not proven invalid and that LG Electronics Inc. and LG Electronics U.S.A., Inc.'s accused products infringed the patent. Because we hold the '180 patent is invalid for lack of an adequate written description, we reverse.

I

The present appeal arises from a dispute between Appellants Mondis Technology Ltd., Hitachi Maxell, Ltd., n/k/a Maxell Holdings, Ltd., and Maxell, Ltd. (collectively, Mondis), owners of U.S. Patent No. 7,475,180, and Cross-Appellants LG Electronics, Inc. and LG Electronics U.S.A., Inc. (collectively, LG), over allegations that LG manufactured and sold televisions that infringed claims 14 and 15 of the '180 patent.

A

The '180 patent, which issued on January 6, 2009, is titled "Display Unit with Communication Controller and Memory for Storing Identification Number for Identifying Display Unit." The patent describes a system for controlling a specific display unit, such as a computer monitor, that is configured to receive video signals from an external source, such as a computer. The display unit's memory stores one or more identification numbers. *Id.*, Fig. 2. A computer may request control of a newly connected display unit by transmitting the computer's individualized identification number, which the display unit then compares to a

stored list of known identification numbers. *Id.*, 5:38–42. If the computer’s identification number matches a registered identification number in the display unit’s memory, the computer can control aspects of the display unit, such as its brightness and contrast. *Id.*, 5:43–47. If there is no matching identification number, the computer cannot control the display unit. *Id.*, Fig. 3. Alternatively, the computer can store registered identification numbers for specific display units and gain control of a display unit by matching the display unit’s identification number against its stored list. *Id.*, 5:61–6:4.

In either configuration, each identifier is associated with a specific computer or a specific display unit. The patent consistently describes a one-to-one relationship in which one identification number corresponds to one device. For example, the patent provides that “the microcomputer 7 in the display device 6 waits for sending of the identification number assigned to the computer 1, that is, the so-called ID number from the computer 1.” *Id.*, 5:35–38. After this registration process, “the computer 1 is allowed to control the display device 6.” *Id.*, 5:43–44. Similarly, for the alternative configuration where the computer verifies the display unit, “an ID number is sent to the computer 1 from the display device 6 so that the computer 1 identifies that the display device 6 . . . is connected,” and “[b]y doing this, the computer 1 communicates with a specific display device 6.” *Id.*, 5:62–6:6. And “[w]hen an identification number is set to each device, a value which is set by the above control will not be lost by a careless operation of a user.” *Id.*, 10:28–30.

As initially filed, application claim 40 (which issued as claim 14) recited:

40. A display unit for displaying an image based on video signals inputted from an externally connected video source, comprising:

a video circuit adapted to display an image based on the video signals sent by the externally connected video source;

a memory in which at least display unit information is stored, said display unit information including *an identification number for identifying said display unit* and characteristic information of said display unit; and

a communication controller capable of bi-directionally communicating with said video source;

wherein said communication controller is capable of communicating said display unit information other than said characteristic information to said video source.

J.A. 18192–93 (emphasis added) (cleaned up).

On June 4, 2002, Mondis amended the claim by inserting the phrase “at least a type of” to overcome a prior art rejection. As amended, claim 14 recites:

14. A display unit for displaying an image based on video signals inputted from an externally connected video source, comprising:

...

information including *an identification number for identifying at least a type of said display unit* and characteristic information of said display unit; and

....

'180 patent, claim 14 (emphasis added). Claim 15, which depends on claim 14, recites:

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15. The display unit according to claim 14, wherein said display unit information is sent to said video source in response to power on of at least one of said display unit and said video source.

Id., claim 15.

B

In 2014, Mondis filed a complaint against LG in the Eastern District of Texas alleging infringement of the '180 patent and four other patents in the same family. Compl. at ¶ 1, 10–14, *Mondis Tech. Ltd. v. LG Elecs., Inc.*, No. 2:14-CV-702-JRG (E.D. Tex. June 21, 2014), ECF No. 1. The case was then transferred to New Jersey, where it was stayed pending reexamination by the Patent Office. *Mondis Tech. Ltd. v. LG Elecs., Inc.*, No. 2:14-CV-702-JRG, 2015 WL 12818871 (E.D. Tex. June 3, 2015), ECF No. 56 (order granting motion to transfer); *Mondis Tech. Ltd. v. LG Elecs., Inc.*, No. 2:15-CV-04431-SRC-CLW, (D.N.J. Nov. 12, 2015), ECF No. 121 (order granting motion to stay). After some claims of the '180 patent survived reexamination, Mondis voluntarily cancelled all claims of the other four patents subject to reexamination. J.A. 1060. The district court litigation proceeded, relevant here, on claims 14 and 15 of the '180 patent.

A jury trial took place in April 2019. LG challenged claims 14 and 15 as invalid for lacking written description for the limitation “said display unit information including an identification number for identifying at least a type of said display unit and characteristic information of said display unit” (the type limitation). LG argued that while the originally filed patent supported the original claim of an identification number for identifying said display unit, it did not support the amended claim’s requirement of identifying *a type* of said display unit. Mondis did not present a rebuttal case regarding written description during trial. J.A. 20744, 744:3–6.

On April 9, 2019, the jury found the two asserted claims of the '180 patent not invalid and infringed. J.A. 193–94. On April 12, 2019, the jury returned a verdict finding willful infringement and awarding \$45,000,000 in damages to Mondis. J.A. 216–17.

LG filed a motion for Judgment as a Matter of Law challenging, among other things, the jury's finding of written description support. On September 24, 2019, the district court denied LG's motion without identifying support for the type limitation in the patent's specification. J.A. 221–24. Instead, the district court relied on the presumption of validity and its determination that the jury was free to disregard LG's expert's testimony because he was impeached when testifying about noninfringement to determine that "[t]he jury reached the conclusion that the claims were valid based on the failure of the patent challenger's evidence to clearly and convincingly establish the contrary." J.A. 223. The district court accordingly upheld the jury's findings on invalidity, infringement, and willfulness, but vacated the damages award and ordered a retrial on damages.

After a damages retrial that began on February 6, 2023, the retrial jury awarded damages of \$14,300,000 to Mondis. J.A. 506. On June 1, 2023, the district court denied LG's post-trial motions related to damages, denied Mondis' motion for enhanced damages and attorneys' fees, and granted-in-part Mondis' motion for pre-judgment and post-judgment interest. *Mondis Tech. Ltd v. LG Elecs., Inc.*, No. 2:15-CV-4431-SRC-CLW, 2023 WL 3749992 (D.N.J. June 1, 2023).

Both LG and Mondis timely filed notices of appeal. On appeal, Mondis argues: (1) the district court erred in vacating the original \$45 million damages verdict, (2) the district court erred in creating a supposed "no new evidence" rule during retrial, (3) the district court erred in denying enhanced damages, (4) the district court erred in denying

attorneys' fees, and (5) the district court erred in determining prejudgment interest. On cross-appeal, LG argues: (1) the district court erroneously denied its motion for JMOL of invalidity for lack of written description, (2) the district court erroneously denied its motion for JMOL of noninfringement, and (3) no reasonable jury could have found the damages award at retrial. We have jurisdiction over the appeal and cross-appeal pursuant to 28 U.S.C. § 1295(a)(1).

II

We review a district court's denial of JMOL under the regional circuit law. *Summit Tech., Inc. v. Nidek Co.*, 363 F.3d 1219, 1223 (Fed. Cir. 2004). In the Third Circuit, denial of JMOL is reviewed for "whether there is evidence upon which a reasonable jury could properly have found its verdict." *TransWeb, LLC v. 3M Innovative Props. Co.*, 812 F.3d 1295, 1301 (Fed. Cir. 2016) (quoting *Gomez v. Allegheny Health Servs.*, 71 F.3d 1079, 1083 (3d Cir. 1995)). "JMOL 'should be granted only if, viewing the evidence in the light most favorable to the nonmovant and giving it the advantage of every fair and reasonable inference, there is insufficient evidence from which a jury reasonably could find' for the nonmovant." *Id.* (quoting *Lightning Lube, Inc. v. Witco Corp.*, 4 F.3d 1153, 1166 (3d Cir. 1993)). Patents are presumed to be valid and overcoming this presumption requires clear and convincing evidence. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1354 (Fed. Cir. 2010) (en banc).

III

A patent's specification "shall contain a written description of the invention." 35 U.S.C. § 112 ¶ 1 (pre-AIA). "[T]he hallmark of written description is disclosure." *Ariad*, 598 F.3d at 1351. To satisfy the written description requirement an applicant need not expressly "recite the claimed invention *in haec verba*," but a patent's specification must "reasonably convey[] to those skilled in the art

that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* at 1351–52. And “[w]hile it is legitimate to amend claims or add claims to a patent application purposefully to encompass devices or processes of others, there must be support for such amendments or additions in the originally filed application.” *PIN/NIP, Inc. v. Platte Chem. Co.*, 304 F.3d 1235, 1247 (Fed. Cir. 2002).

Compliance with the written description requirement of 35 U.S.C. § 112, ¶ 1 is a question of fact, and “we review a jury’s determinations of facts relating to compliance with the written description requirement for substantial evidence.” *Ariad*, 598 F.3d at 1355 (quoting *PIN/NIP*, 304 F.3d at 1243). LG had the burden of persuasion on this fact, needing clear and convincing evidence. *Id.* at 1354.

LG contends that the written description does not support the claim limitation “identification number for identifying at least a type of said display unit,” which we refer to as the type limitation. LG’s Opening Br. 10. We agree with LG that no reasonable jury could find the patent’s written description conveys to a relevant artisan that the inventors possessed the type limitation. We hold that the jury’s finding that LG failed to show inadequate written description for the asserted claims lacked substantial evidence support on the record.

A

As a threshold matter, Mondis argues that because of the presumption of validity, it was not required to provide any evidence to prove there was adequate written description support. Under 35 U.S.C. § 282(a), a “patent shall be presumed valid.” Throughout litigation “the presumption of validity remains intact and the ultimate burden of proving invalidity remains with the challenger.” *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1360 (Fed. Cir. 2007) (quoting *Mas-Hamilton Grp. v. LaGard, Inc.*, 156 F.3d 1206, 1216 (Fed. Cir. 1998)).

There are situations where, because “[a] patent [is] presumed valid at birth, . . . a patentee need submit *no* evidence in support of a conclusion of validity by a court or a jury.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1570 (Fed. Cir. 1986) (emphasis in original). However, sometimes the patent itself is clear enough that it establishes inadequacy of support in the written description for the full scope of the claimed invention unless there is contrary evidence. See *Centocor Ortho Biotech, Inc. v. Abbott Lab'y's*, 636 F.3d 1341, 1347 (Fed. Cir. 2011) (“A patent also can be held invalid for failure to meet the written description requirement based solely on the face of the patent specification.”); *PIN/NIP*, 304 F.3d at 1247–48 (holding that a patent can be held invalid for failure to meet the written description requirement, based solely on the language of the patent specification); *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 927 (Fed. Cir. 2004) (“[The] argument that a patent may not be held invalid on its face is contrary to our case law.”). That is so here, as confirmed by the testimony of Mondis’ own expert on the key point.

When the patent was initially filed, claim 14 (then-numbered as claim 40) recited “an identification number for identifying **said** display unit.” J.A. 18193 (emphasis added). Mondis amended the claim to overcome a prior art rejection. J.A. 18203–04; J.A. 18209–10. As issued, claim 14¹ of the patent recites “an identification number for identifying **at least a type of** said display unit.” ’180 patent, claim 14 (emphasis added). This amendment changed the nature of the claim’s identification number from one identifying a specific display unit to one identifying a type of display unit. LG contends that the amended type limitation

¹ Claim 15 depends on claim 14 and includes the same limitation.

lacks written description support from the originally filed patent.

It is undisputed that the patent does not expressly disclose the type limitation.² The patent's specification recites the phrase "type of display device" only once in its background section, *id.*, 1:41–44, but this use does not provide written description support because it refers to a prior-art multi-scan monitor rather than the claimed invention. *See Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1159 (Fed. Cir. 1998) (reversing JMOL denial where cited patent passage was "reviewing the prior art and did not describe the invention"). Instead, the patent consistently discloses an identifier that is associated with a specific computer. *See, e.g.*, '180 patent, 5:35–38 ("[T]he microcomputer 7 in the display device 6 waits for sending of the identification number assigned to the computer 1, that is, the so-called ID number from the computer 1."), 5:43–44 ("[T]he computer 1 is allowed to control the display device 6[.]"), 5:62–6:6 ("[A]n ID number is sent to the computer 1 from the display device 6 so that the computer 1 identifies that the display device 6 . . . is connected," and "[b]y doing this, the computer 1 communicates with a specific display device 6."), 7:18–20 ("Each of the display devices 6B, 6C, and 6D has . . . a registered ID number.").

Additionally, LG's expert, Dr. Stevenson, testified that the patent does not disclose an identification number to identify a type of display unit. J.A. 20616–17, 616:24–617:10; J.A. 20570–71, 570:24–571:1. Mondis argues that the jury was free to dismiss Dr. Stevenson's

² At oral argument, counsel for Mondis agreed that the specification does not disclose the actual words "type identifier." *See Oral Arg.* at 15:20–17:15, No. 23-2117, available at https://oralarguments.cafc.uscourts.gov/default.aspx?fl=23-2117_04072025.mp3.

credibility on written description because he was impeached.³ Mondis' Reply Br. 41–42. But even assuming Dr. Stevenson's credibility was impaired through impeachment, Mondis' expert, Mr. Lamm, also testified that the specification "does not expressly recite an identification number for identifying a type of display unit." J.A. 20417–18, 417:24–418:2.

To satisfy the written description requirement, the patent specification's disclosures must demonstrate to a skilled artisan that the inventors possessed the invention, including, in this case, the type limitation. *See Ariad*, 598 F.3d at 1351 (requiring an "objective inquiry into the four corners of the specification"). Based only on the patent and Mr. Lamm's testimony, any reasonable jury performing this objective inquiry into the four corners of the patent would have to find that the inventors only possessed and disclosed identifying a specific display unit.

It would not automatically be fatal that the type limitation was not expressly disclosed as long as substantial evidence showed that the patent disclosed identifying a type of display unit in some less express way. And Mondis argues that (1) Mr. Lamm's testimony, (2) Dr. Stevenson's admissions, and (3) the prosecution history each provide substantial evidence to support the jury's finding on validity. We address each in turn.

1

Mondis argues that there was "written description support for a type ID based on Mr. Lamm's description of the

³ We do not reach whether (1) Dr. Stevenson was impeached while testifying about infringement, and (2) if he was impeached, whether his impeached noninfringement testimony can impair his invalidity testimony because we can resolve the issue on appeal without relying on his testimony.

patent and the plain words of the specification.” Mondis’ Reply Br. 44. The specification describes an embodiment where an ID number is sent from the display to a computer:

Namely, an ID number is sent to the computer 1 from the display device 6 so that the computer 1 identifies that the display device 6 having a communication function is connected and the computer 1 compares the ID number with the ID number registered in the computer 1.

’180 patent, 5:62–67. Mondis argues that ‘Mr. Lamm presented this passage to the jury and explained that the communication function comprised a ‘video format the display is capable of receiving.’” Mondis’ Reply Br. 44 (quoting J.A. 20291, 291:3–4). Mondis claims that “[t]his display ID number plainly identifies a display type in accord with the ordinary meaning of the word ‘type,’ because the ID distinguishes between two groups of displays based on their common characteristics, *i.e.* those that support a ‘communication function’ (video format) and those that do not,” and that, “[g]iven the specification’s description of a display ID being used to differentiate classes of displays with different capabilities, the jury was entitled to draw the reasonable inference that a display type ID was disclosed.” *Id.* at 44–45 (emphasis in original).

The full portion of Mr. Lamm’s testimony that Mondis relies on states:

This is column 5, line 62 through 67, and it basically says the ID number identifies that the display device having a communication function is connected. And in this case the communication function that they’re talking about is an actual video format. So, the ID number is defining what video format the display is capable of receiving.

J.A. 20290–91, 290:23–291:4. Not only was this testimony about infringement rather than validity, it was also silent

about the type limitation. Mondis never presented any evidence to the jury connecting this “communication function” to the type limitation that would allow a reasonable jury to find written description support.

And the plain words of this portion of the specification demonstrate that the patent discloses a specific display unit, not the type limitation. The sentence in the patent that immediately follows the excerpt discussed by Mr. Lamm, which Mondis did not present to the jury, states that “[b]y doing this, the **computer 1 communicates with a specific display device 6** and can exercise control such as changing the color temperature of an image displayed on the display device 6 or changing the display size depending on the application software.” ’180 patent, 6:5–9 (emphasis added). This passage only indicates that the display device transmits to the computer an identification number identifying a specific display unit so that the computer may control the display device if the specific display unit’s identification number is registered with the computer. It does not provide written description support for the type limitation.

Thus, neither Mr. Lamm’s testimony nor the plain words of the specification in the portions that he cited in his testimony provide substantial evidence to support the jury’s finding on validity.

2

Mondis also argues that Dr. Stevenson made admissions that provide substantial evidence to support the jury’s finding on validity. Specifically, Mondis contends that Dr. Stevenson’s noninfringement testimony provides substantial evidence that serial numbers (1) could be used to identify a particular display unit, and (2) could hypothetically be a type ID.

The written description “test requires an objective inquiry into the four corners of the specification from the

perspective of a person of ordinary skill in the art.” *Ariad*, 598 F.3d at 1351. And “we have repeatedly stated that actual ‘possession’ or reduction to practice outside of the specification is not enough.” *Id.* at 1352. It is the specification itself that must demonstrate possession.

As an initial matter, Mondis does not identify any reference to serial numbers in the specification. The patent’s specification does not use the term serial numbers, does not discuss serial numbers, and does not describe a serial number that identifies a display unit type.

Further, Dr. Stevenson’s testimony does not provide substantial evidence for adequate written description. Dr. Stevenson’s testimony was regarding noninfringement. He never testified that in reading the patent’s specification, he or a relevant artisan would understand the type limitation to include serial numbers. Instead, he was presented with a hypothetical serial number and testified that it could potentially be a type identifier in some circumstances. But when asked whether a “serial number would be an identification number for identifying a type of display unit,” J.A. 20682, 682:2–4, Dr. Stevenson testified that “no one has made that allegation,” J.A. 20682, 682:5. Dr. Stevenson explained that this would require hypothetically mapping the serial number onto the model number to see if the serial number could be used to “figure out the model number.” J.A. 20682, 682:5–8.

There was no testimony from which a skilled artisan would have concluded that such mapping of serial number onto model number is disclosed or suggested in the patent itself. And there is nothing in the patent describing a serial number that identifies any type of display unit. Dr. Stevenson’s noninfringement testimony about a hypothetical serial number does not address whether a person of ordinary skill in the art would find support in the specification for the type limitation.

Thus, Dr. Stevenson’s testimony does not provide substantial evidence to support the jury’s finding on validity.

3

Lastly, Mondis argues that the prosecution history provides substantial evidence to support the jury’s finding on validity because the type limitation was added to overcome a prior art rejection. Mondis contends that when a claim amendment is allowed without objection, it “is entitled to an especially weighty presumption of correctness.” Mondis’ Reply Br. 47 (quoting *Commonwealth Sci. & Indus. Rsch. Org. v. Buffalo Tech., Inc. (USA)*, 542 F.3d 1363, 1380 (Fed. Cir. 2008) (internal citation omitted)). Thus, Mondis argues that when the examiners allowed the amendment, they agreed to the type limitation because they understood that it was supported by written description.

Commonwealth Science holds that there is a “presumption of validity based on the PTO’s issuance of the patent despite the amendments.” 542 F.3d at 1380. It does not hold that the examiner’s allowance of claims by itself provides substantial evidence that the claims comply with the requirements of § 112. See, e.g., *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1245 (Fed. Cir. 2003) (“[W]e dispel the notion that the failure of the PTO to issue an enablement rejection automatically creates an ‘especially weighty presumption’ of compliance with 35 U.S.C. § 112.”). If it did, there would rarely be a situation where an issued patent could later be invalidated for lack of written description.

Nevertheless, even if the allowance of amendments could be substantial evidence of written description, that would not be the case here. The examiner’s interview summary explains that the claim was rejected over prior art. Thus, the claim was amended to “specify identification number as a ‘type’ of display unit which examiner agree[d] will read over the previous art applied regarding to the claims.” J.A. 15102 (emphasis omitted). There is no

evidence the examiner considered whether the specification contained written description support for this amendment. The evidence only shows that the examiner allowed the claim as amended because it included a feature that was not in the identified prior art. This is not substantial evidence that the patent contains written description support for the type limitation.

Thus, the fact that the examiner allowed the amendment is not substantial evidence that supports the jury's finding on validity.

B

Even if we assume the jury was free to disregard Dr. Stevenson's testimony, the only evidence before the jury regarding written description was the patent—which does not disclose the type limitation—and Mr. Lamm's testimony that the patent does not disclose the asserted claims' type limitation. Because Mondis neither redirected Mr. Lamm on his testimony that the patent does not expressly disclose the type limitation, nor called him in rebuttal, there was no evidence in the record that would allow a reasonable jury to determine that a person of ordinary skill in the art would understand that the patent disclosed the type limitation. The patent and Mr. Lamm's testimony established that the inventors only possessed and disclosed identifying a specific display unit.

Substantial evidence does not support the jury's finding that the '180 patent disclosed sufficient information to show the inventors possessed the claim limitation "an identification number for identifying at least a type of said display unit." We hold that claims 14 and 15 of the '180 patent are invalid for lack of an adequate written description.

IV

Because we conclude that claims 14 and 15 of the '180 patent are invalid for lack of an adequate written description, the issue of infringement is moot. *Lough v. Brunswick*

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Corp., 86 F.3d 1113, 1123 (Fed. Cir. 1996) (“No further public interest is served by our resolving an infringement question after a determination that the patent is invalid.”). Similarly, because we conclude that the asserted claims are invalid, the remaining issues involving the damages re-trial, the district court’s failure to declare the case exceptional, the district court’s refusal to enhance damages, and the district court’s award of interest are also moot. LG is entitled to entry of judgment in its favor.

V

We have considered Mondis’ remaining arguments and find them unpersuasive. We reverse the district court’s holding that claims 14 and 15 of the ’180 patent are not invalid for lack of an adequate written description. Those claims are invalid. We reverse the denial of judgment as a matter of law.

REVERSED

COSTS

Costs to Appellee/Cross-Appellant LG.